

## **Ikigai - Task 3 Document**

### **Purpose:**

Task aims to develop a loan support chatbot for Smart Bank using Large Language Models (LLMs). The chatbot will assist customers with inquiries about their eligibility for loans and provide information about the loan application process.

### **Code Structure:**

#### **Folder Structure:**

- /QASystem : Main project directory - ingestion.py # Script for ingesting documents into the database - retrieval\_and\_generator.py # Script for retrieval and generation tasks

utility.py : Utility functions for configuring Pinecone database connection

### **Codebase Overview:**

The project consists of three main Python scripts:

1. **ingestion.py**: This script ingests documents into the database using the Haystack library. It utilizes components such as **PyPDFToDocument** for converting PDFs to documents, **DocumentSplitter** for splitting documents into sentences, **SentenceTransformersDocumentEmbedder** for embedding sentences, and **DocumentWriter** for writing documents to the database.
2. **retrieval\_and\_generator.py**: This script performs retrieval and generation tasks using the Haystack library. It has a similar structure to **ingestion.py** and is responsible for querying the database to retrieve relevant documents.
3. **utility.py**: This script contains utility functions for configuring the Pinecone database connection. It sets up the Pinecone environment, creates an index for storing embeddings, and returns a Pinecone client object.

### **Key Features:**

- Loan Eligibility Check
- Application Process Guidance:
- FAQs and Troubleshooting
- Personalized Recommendations

**Technologies Used:** MistralAI, HayStack, Pinecone